OIPE JC48
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PATENT & TRADEMARK OFFICE

AF/ 2636
IFW

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Hayden

Serial No.: 10/075,479

Filed: 12 February 2002

For: *SENSOR LOOP WITH DISTRIBUTED POWER SOURCES AND METHOD THEREFOR*

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21 Oct. 2004
Date

Lowell W. Gresham
Signature

21 October 2004

Respectfully submitted,

Lowell W. Gresham

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OIPE JC48
OCT 2 5 2004
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PTO/SB/17 (10-04v2)
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FEE TRANSMITTAL for FY 2005

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☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 340.00

Complete if Known	
Application Number	10/075,479
Filing Date	12 February 2002
First Named Inventor	Hayden
Examiner Name	H. Nguyen
Art Unit	2636
Attorney Docket No.	2236-090

METHOD OF PAYMENT *(check all that apply)*

☑ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☐ Deposit Account:

Deposit Account Number:

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FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	790	2001	395	Utility filing fee	
1002	350	2002	175	Design filing fee	
1003	550	2003	275	Plant filing fee	
1004	790	2004	395	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) ($) 0.00

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

			Extra Claims		Fee from below		Fee Paid
Total Claims		-20** =		X		=	
Independent Claims		- 3** =		X		=	
Multiple Dependent						=	

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	88	2201	44	Independent claims in excess of 3
1203	300	2203	150	Multiple dependent claim, if not paid
1204	88	2204	44	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0.00

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for *ex parte* reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	430	2252	215	Extension for reply within second month	
1253	980	2253	490	Extension for reply within third month	
1254	1,530	2254	765	Extension for reply within fourth month	
1255	2,080	2255	1,040	Extension for reply within fifth month	
1401	340	2401	170	Notice of Appeal	
1402	340	2402	170	Filing a brief in support of an appeal	340.00
1403	300	2403	150	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,370	2453	685	Petition to revive - unintentional	
1501	1,370	2501	685	Utility issue fee (or reissue)	
1502	490	2502	245	Design issue fee	
1503	660	2503	330	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	2809	395	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR 1.129(b))	
1801	790	2801	395	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) ____________

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SUBTOTAL (3) ($) 340.00

SUBMITTED BY				(Complete *(if applicable)*)	
Name *(Print/Type)*	Lowell W. Gresham	Registration No. *(Attorney/Agent)*	31,165	Telephone	602-274-6996
Signature	Lowell W. Gresham			Date	10/21/2004

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OIPE
OCT 2 5 2004
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Application of: Herbert T. Hayden	Date: 21 October 2004
Serial Number: 10/075,479	Group Art Unit: 2636
Filed: 12 February 2002	Examiner: H. Nguyen
Title: "Sensor Loop with Distributed Power Sources and Method Therefor"	Atty. Docket No.: 2236-090

Assistant Commissioner for Patents
Washington, D.C. 20231

APPELLANT'S BRIEF

Dear Sir:

This Brief is filed pursuant to a Notice of Appeal mailed on 23 September 2004 in the matter of the above-identified application.

10/27/2004 CCHAU1 00000154 10075479
01 FC:1402 340.00 OP

(1) Real Party in Interest

Pinnacle West Capital Corporation is the real party in interest in this matter and the assignee of this application.

(2) Related Appeals and Interferences

The appellant is aware of no related application that will directly affect or be directly affected by or have a bearing on the Board's decision in the present appeal.

(3) Status of Claims

Claims 1-21 are present in the Application. Of these, claims 1-19 are on appeal and claims 20 and 21 are allowed. Appendix A provides a clean copy of all claims. Appendix B provides a clean copy of the Figures.

Independent claims 1 and 16 are rejected under 35 U.S.C. 103(a) as obvious over Slemon et al., U.S. Patent No. 5,910,756 (hereinafter Slemon) in view of Allgood, U.S. Patent No. 4,361,833 (hereinafter Allgood).

Claims 2-15 and 17-19 are dependent, either directly of indirectly, from independent claims 1 and 16, respectively, and are therefore allowable by reason of dependency if claims 1 and 16 are allowable.

APPENDIX C provides copies of the Slemon and Allgood references.

(4) Status of Amendments

No amendments have been filed subsequent to the second rejection set forth in the 1 July 2004 Office Action.

(5) Summary of Invention

Appendix B provides copies of FIGs. 1-4, which are discussed below.

The present invention pertains to a sensor loop 24 formed of a plurality of series-connected sensor units 22. Each sensor unit 22 within sensor loop 24 has a local power source 26, a local sensor 14, and a local load 56 connected in series.

Referring to FIGs. 1 and 2, the specification describes a preferred environment of the present invention as a farm 10 of very large solar collectors 12 [page 6, lines 3-5], wherein each solar collector 12 is associated with one or more sensors 14 [page 6, lines 16-17]. Sensors 14 are configured to sense or monitor an environmental phenomenon or condition that is used by a fail safe sensor loop to indicate when operation of farm 10 is acceptable or should be curtailed [page 6, lines 17-20]. Each sensor 14 might be an anemometer to monitor wind 16 [page 6, lines 25-27]. Desirably, solar collectors 12 assume a wind-stow position when sensors 14 sense that the speed of wind 16 is above a predetermined threshold [page 6, lines 27-31].

Referring to FIGs. 1 through 4, the present invention is a sensor loop 24 comprising a plurality of sensor units 22 coupled in series and configured to effect the desired fail-safe loop for solar collectors 12 [page 8, lines 25-31, and page 11, lines 15-19]. Each sensor unit 22 comprises a local power supply 26, a local sensor 14, and a local indicator controller 30 connected in series [page 9, lines 4-9]. The local power supply 26, sensor 14, and indicator controller 30 of each sensor unit 22

are coupled in series with those of each other sensor unit 22 to form a closed circuit 40 and effect sensor loop 24 [FIG. 4].

Within each sensor unit 22, indicator controller 30 has an impedance serving as a local load 50 [page 12, lines 11-13]. Desirably, local load 50 is the coil of a conventional electromechanical relay [page 14, lines 20-27] controlling a normally open load switch 58 [page 12, lines 11-15]. That is, load switch 58 is open when the relay coil (local load 50) <u>is not</u> energized, and closed when the relay coil <u>is</u> energized.

Within each sensor unit 22, local power supply 26 is isolated from the earth (i.e., ungrounded) [page 9, line 30, through page 10, line 1], separate from the local power supply 26 of any other sensor unit 22 [FIG. 4], and configured to fulfill the voltage and/or current requirements of local load 50 [page 12, lines 16-30]. Local loads 50 and power supplies 26 of all sensor units 22 are connected in series within sensor loop 24. Power is therefor distributed throughout sensor loop 24.

Within each sensor unit 22, local sensor 14 incorporates a normally open sensor switch 48 in series with local power supply 26 and local load 50 [page 11, lines 9-10]. That is, sensor switch 48 is open when the predetermined condition is detected, and closed while the predetermined condition is absent [page 11, lines 11-15]. For example, when the monitored condition is the speed of wind 16, sensor switch 48 remains closed while the wind speed is less than a predetermined threshold, and opens whenever the wind speed exceeds that threshold.

All sensor units 22 in sensor loop 24 are connected in series

[FIG. 4]. Each of sensor units 22 comprises local power supply 26, local sensor switch 48, and local load 50 connected in series to form closed loop 40 [page 9, lines 4-9, and FIG. 4]. Each sensor switch 48 is therefore connected in series with each other sensor switch 48, as each local power supply 26 and each local load 50 [page 11, lines 15-19]. This means that if any one sensor switch 48 were to open (i.e., any one sensor 14 were to detect wind speed above the predetermined threshold), then current would cease flowing in closed loop 40 and all local load switches 58 would open.

If, as in the preferred embodiment, an open local load switch 48 causes the associated solar collector 12 to revert to its wind-stow position, then an excessive wind speed detection by any sensor 14 would cause all solar collectors 12 in farm 10 to revert to their wind-stow positions. This is the desired fail-safe condition.

(6) Issues

The following issue is presented for review:

1. Whether claims 1 and 16 are made obvious under 35 U.S.C. 103(a) by Slemon in view of Allgood.

(7) Grouping of Claims

Group I, Claims 1-19

It is the appellant's position that claims 1-19 stand or fall together.

(8) Argument

Group 1, Claims 1-19

An Office Action dated 1 July 2004 (hereinafter the Office Action), which was the second Office Action in this matter, rejected claims 1 and 16 under 35 U.S.C. 103(a) as being obvious over Slemon in view of Allgood.

In the present invention, claims 1 and 16 are independent claims. Regarding claim 1, the present invention claims a sensor loop for distributing indications of a condition monitored at different locations. The Office Action asserts:

> ...Slemon discloses a sensor loop for distributing indications of a condition monitored at different locations [fig.1-3, col.5, line 55 to col.6, line 21]...

Slemon does not disclose a "sensor loop." Nowhere in Slemon is the term "loop" used in connection with the sensors. Indeed, the term "loop" is used only twice in Slemon, once at column 4, lines 64-67:

> The gasses are cycled through the gas detection assembly and back through the extraction chamber, in a continuous loop, to establish an equilibrium of gas concentrates at the sensors.

And once in column 11, lines 14-19:

> Eventually, recirculation of the gases through this loop will cause the gas concentrations in analysis chamber 143 to reach equilibrium with the concentrations in extraction chamber 120, so that sensors 144a through 144i are exposed to the true

> concentration of gases which have evolved from the oil.

In both instances, the term "loop" refers to the circulation of the gasses being monitored, and not to the sensors.

Furthermore, Slemon teaches in the very location noted by the Office Action (column 5, lines 55-60):

> [A] sensor module...10 includes a sensor array 12 which includes a plurality of sensors 14a-g. Preferably, the sensors 14a-g in sensor array 12 are diverse and mixed, at least insofar as their detection capabilities are concerned.

This is further demonstrated in FIG. 3, which shows a single array 12 having a plurality of sensors 14a-g at a single location. Slemon does not teach "a condition monitored at different locations," but rather "different conditions monitored at a location."

The present invention claims a sensor loop comprising a plurality of sensor units coupled in series to form a closed circuit. The Office Action asserts:

> ...Slemon discloses a sensor loop...comprising:
> - a plurality of sensor unit (12a-f) [sic] coupled in series...
> [fig.1-3, col.5, line 55 to col.6, line 21];...

Slemon does not disclose sensor units in series. In fact, the word "series" is not used anywhere in Slemon. To the contrary, FIG. 1 depicts the sensors 14a-g in sensor array 12 using a standard block-diagram symbol for parallel devices. This is reinforced in column 6, lines 22-28, which states:

> As shown in FIG. 1, the outputs 16 of the various diverse sensors 14a-g are taken from the array 12 and presented as inputs to a pre-processor unit 18. The purpose of the pre-processor unit 18 is to collect the data in all of the various outputs 16a-g and sort this data into data segments 20a-c with each data segment 20 containing generally related data.

This describes a parallel collection of data from the sensors 14a-g, indicating the sensors are connected in parallel.

Furthermore, the Office Action totally ignores the appellant's recitation of a closed circuit. Nowhere in Slemon is a closed circuit mentioned in connection with the sensors.

The present invention claims a plurality of sensor units, wherein each sensor unit comprises a local power source. The Office Action asserts:

> ...Slemon discloses a sensor loop...comprising:
> - a local power source could be DC or AC source is inherently in the system... [fig.1-3, col.3, lines 41-45, lines 62-66 and col.5 line 55 to col.6, line 21];...

Slemon does not teach local power sources for each sensor [unit]. The columns and lines cited by the Office Action have nothing to do with power sources and are irrelevant to the rejection. In fact, Slemon does not teach any form of power source at all. It is left to those skilled in the art to determine the type of power source(s) used by Slemon. Since distributed power sources, as claimed by the present invention, amount to a form of power sourcing not taught by any prior art reference of record, it would not be obvious to expect one of ordinary skill in the art to assume distributed power sources

when no power source is described or suggested.

The Office Action further states:

> ...Allgood teaches a multi-sensor alarm system for protecting premises includes at one sensor circuit (12 and alarm circuit (14) which are electrically interconnected at terminals (16,18). The sensor (12) type B (22) can be generally represented as two contact switches whose contact configuration is normally open type [figs.1-2, col.3, lines 56-68 and col.4, lines 35-47].

The Office Action goes on to assert "it would have been obvious to one having ordinary skill in the art to employ the teaching of Allgood in the system of Slemon for improving sensor loop with distributed power source [sic]".

All sensors in the Allgood system connect to the alarm circuit through a single pair of terminals 16 and 18 (FIG. 1). Any number of sensors may be connected to the alarm circuit at terminals 16 and 18.

The Allgood sensors are of three types: a type A sensor 20, consisting of a normally closed single-throw series switch, a type B sensor 22, consisting of a normally open single-throw shunt (i.e., loop-shorting) switch, and a type C sensor 24, consisting of a double-throw switch normally that is normally in series and moves to shunt when triggered.

It may be seen from FIG. 1 that these sensors serve to disable the actions of other sensors when triggered. That is, sensor types B and C will disable the operation of all other sensors when triggered by shunting the sensor loop. Similarly,

sensor type A will disable any other sensor type A connected in series (not shown by implied). Therefore, the sensor loop of Allgood is configured to detect the operation of only a single sensor at a time. This is perfectly acceptable for Allgood's alarm circuit.

The sensor array of Slemon, on the other hand, depends upon the output of a plurality of sensors to be simultaneously processed. Were the sensor loop of Allgood to be substituted for the sensor array of Slemon, as suggested by the Office Action, then Slemon would no longer be capable of functioning. It would therefore not be obvious to one of ordinary skill in the art to combine Slemon with Allgood, as this would render Slemon inoperable.

Furthermore, the alarm circuit of Allgood comprises an open loop, not a closed loop as claimed by the appellant. This is readily apparent when the sensor loop of the present invention (FIG. 4) is compared with the "sensor loop" of Allgood (FIG. 1). Nowhere does the appellant's closed loop connect to anything except sensors. Allgood, on the other hand, teaches a plurality of sensor types connected via an open loop to an alarm circuit. Allgood does not teach a system similar in any manner to the present invention.

In addition, none of the Allgood sensors has a local power source. Indeed, the entirety of the Allgood system is powered by a single D-C power source (not shown) through terminals 26 and 28 (FIG. 1). This is a conventional single power source approach and can in no way be considered an implementation of distributed power.

The mischaracterization of the prior art and the attribution of the teaching from the appellant's application to the prior art, which is silent upon such teachings, provide strong evidence that the Office Action has read the present invention into Slemon, either alone or in combination with Allgood, using hindsight. This is not permitted. Independent claim 1 should therefore be allowable. The appellant respectfully requests the Board's consideration regarding independent claim 1.

Claims 2-15 depend, either directly or indirectly from allowable independent claim 1. Claims 2-15 are therefore allowable by reason of dependency. The appellant respectfully requests the Board's consideration regarding dependent claims 2-15.

The arguments discussed hereinbefore with regard to independent claim 1 are equally valid for independent claim 16. Independent claim 16 should therefore be allowable. The appellant respectfully requests the Board's consideration regarding independent claim 16.

Claims 17-19 depend, either directly or indirectly from allowable independent claim 16. Claims 17-19 are therefore allowable by reason of dependency. The appellant respectfully requests the Board's consideration regarding dependent claims 17-19.

Conclusion

Claims 1-19 are included in this appeal. The rejection of

claims 1-2, 5-7, 10-12, 14, and 16-19 under 35 U.S.C. 103(a) as obvious over Slemon in view of Allgood, the rejection of claims 3 and 4 under 35 U.S.C. 103(a) as obvious over Slemon in view of Allgood and further in view of Curto, and the objections to claims 8-9, 13, and 15 as being dependent from rejected base claims are believed to be improper. Neither Slemon nor Allgood nor Curto expressly teach of a sensor loop for distributing indications of a condition monitored at different locations, wherein the sensor loop comprises a plurality of sensor units coupled in series to form a closed circuit, and wherein each sensor unit comprises a local power source.

The appellant believes that the arguments above fully respond to every outstanding ground of rejection and that the contested claims should be found allowable.

Respectfully submitted,

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(9) Appendix A -- Claims on Appeal

This Appendix is eight pages, including this cover page, and contains a clean double-spaced copy of the claims.

Claim 1. A sensor loop for distributing indications of a condition monitored at different locations, said sensor loop comprising:

a plurality of sensor units coupled in series to form a closed circuit, wherein each sensor unit comprises:

a local power source;

a local sensor switch; and

a local load, said local load, said local sensor switch and said local power source being coupled in series within said sensor unit.

Claim 2. A sensor loop as claimed in claim 1 wherein said local sensor switch is a normally open switch operated to open when said condition is detected.

Claim 3. A sensor loop as claimed in claim 1 wherein said local sensor switch is provided by an anemometer.

Claim 4. A sensor loop as claimed in claim 1 wherein:

said local loads couple to a solar collector; and

said solar collector is configured to move to a wind stow position when one of said local sensor switches opens.

Claim 5. A sensor loop as claimed in claim 1 additionally comprising a local indicator coupled to said local load.

Claim 6. A sensor loop as claimed in claim 5 wherein said local indicator couples to said local load through a normally open local load switch.

Claim 7. A sensor loop as claimed in claim 6 wherein said local indicator indicates an occurrence of said condition when said local load switch is in an open configuration and indicates an absence of said condition when said local load switch is in a closed configuration.

Claim 8. A sensor loop as claimed in claim 5 wherein, for each sensor unit:

said local power source supplies a local voltage;

said local load exhibits a local load impedance;

said local indicator is configured to indicate an absence of said condition when a current substantially equal to said local voltage divided by said local load impedance passes through said local load; and

said local indicator is configured to indicate an occurrence of said condition when substantially no current passes through said local load.

Claim 9. A sensor loop as claimed in claim 8 wherein:

said condition is represented by wind speed exceeding a predetermined threshold;

said local sensor is an anemometer; and

said local indicator is a solar collector that is placed in a wind stow position when said wind speed exceeds said predetermined threshold.

Claim 10. A sensor loop as claimed in claim 1 wherein:

each local power source supplies a local voltage, and a total voltage equals the sum of all of said local voltages;

each local load exhibits a local load impedance, and a total impedance equals the sum of all of said local load impedances; and

current flowing in said closed circuit substantially equals said total voltage divided by said total impedance.

Claim 11. A sensor loop as claimed in claim 1 wherein said local power source provides an output that is isolated from the earth.

Claim 12. A sensor loop as claimed in claim 1 wherein at least a portion of said local loads are relay coils.

Claim 13. A sensor loop as claimed in claim 1 wherein each of said sensor units additionally comprises a sensor connector having at least first and second sensor-connector contacts configured so that said local power source, said local sensor switch, and said local load thereof are coupled between said first and second sensor-connector contacts of said sensor connector, and wherein said sensor loop additionally comprises:

a plurality of loop connectors wherein each loop connector has first and second loop-connector contacts and is configured to mate with said one of said sensor connectors; and

a plurality of switches, wherein each of said switches couples across said first and second loop-connector contacts of said loop connectors.

Claim 14. A sensor loop as claimed in claim 1 wherein:

at least one of said local sensor switches is provided by a local sensor; and

said local sensor includes a trip indicator isolated from said closed circuit, said trip indicator being configured to indicate whether said local sensor switch of said local sensor is in an open or closed condition.

Claim 15. A sensor loop as claimed in claim 1 wherein:

said local sensor switches of said sensor units are provided by local sensors that monitor an environmental phenomenon;

each member of a pair of said sensor units is positioned proximate a target position to provide redundancy with respect to sensing said environmental phenomenon at said target position;

each of said local loads in said pair of sensor units is associated with a normally open local load switch; and

said sensor loop additionally comprises a local indicator, said local indicator being coupled in series with said local load switches of said pair of sensor units so that said local load switches provide redundancy with respect to indicating said condition.

Claim 16. A method of distributing indications of a condition monitored at different locations, said method comprising:

positioning sensor units at said different locations;

configuring each sensor unit to include a local power source, a local sensor switch, and a local load electrically coupled in series, and a normally open local load switch coupled to said local load;

electrically coupling said sensor units in series to form a closed circuit; and

providing local indicators coupled to said local load switches and configured to indicate occurrences of said condition when said local load switches are open.

Claim 17. A method as claimed in claim 16 additionally comprising:

allowing an electrical current to flow in said closed circuit when all of said local sensor switches are closed;

closing said normally open local load switches when said electrical current flows in said closed circuit;

preventing electrical current from flowing in said closed circuit when any of said local sensor switches is open; and

opening all of said normally open local load switches when said electrical current is prevented from flowing in said closed circuit.

Claim 18. A method as claimed in claim 16 wherein:

said local indicators are solar collectors;

said local sensor switches of said sensor units are provided by anemometers; and

said providing activity comprises moving said solar collectors to wind stow positions when wind speed exceeds a predetermined threshold.

Claim 19. A method as claimed in claim 16 additionally comprising electrically isolating said local power sources from the earth and from each other.

Claim 20. A sensor loop for distributing indications of an excessive wind condition monitored at different locations, said indications being effected by moving solar collectors to wind stow positions, said sensor loop comprising:

a plurality of sensor units coupled in series to form a closed circuit, wherein each sensor unit comprises:

a local power source which supplies a local voltage;

a local anemometer having a local sensor switch which opens when said excessive wind condition is detected;

a local load exhibiting a local load impedance, said local load, said local sensor switch and said local power source being coupled in series within said sensor unit; and

a normally open local load switch coupled to said local load and to one of said solar collectors, wherein

said solar collectors are configured to move to said wind stow positions when substantially no current flows through said closed circuit and are allowed to refrain from moving to said wind stow positions when a current substantially equal to said local voltage divided by said local load impedance passes through said local loads.

Claim 21. A sensor loop as claimed in claim 20 wherein said local power sources provide outputs that are isolated from the earth and from each other.

Appendix B -- Figures

This Appendix is three pages, including this cover page, and contains two drawing sheets containing a clean copy of each of the Figures, being FIGs. 1 through 4.

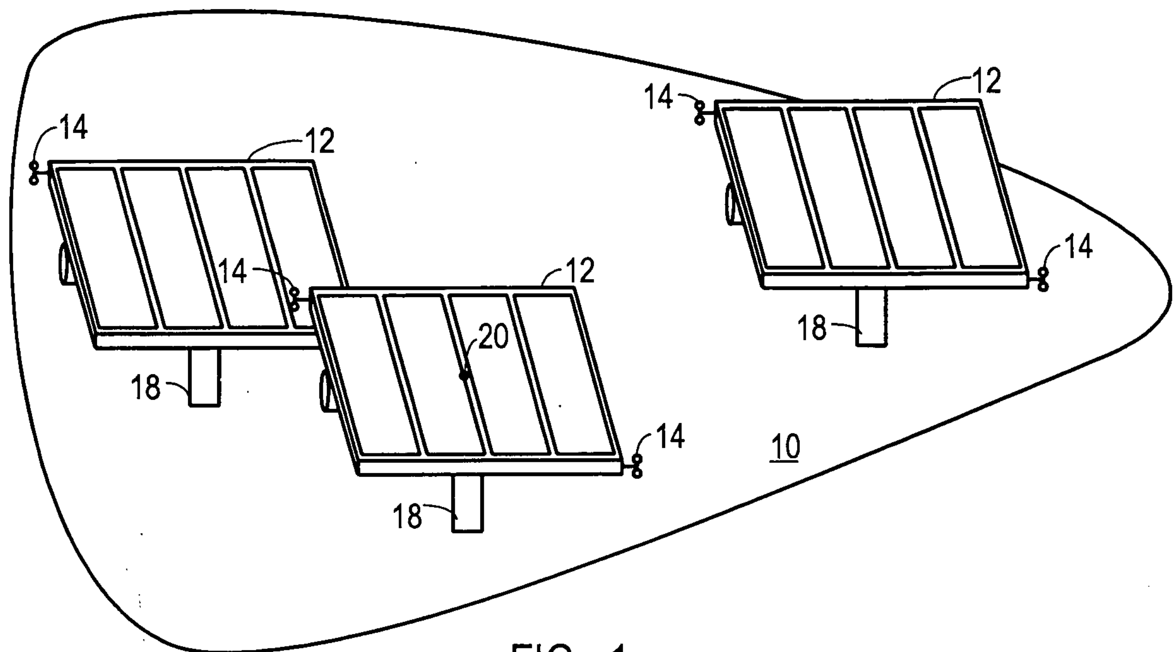
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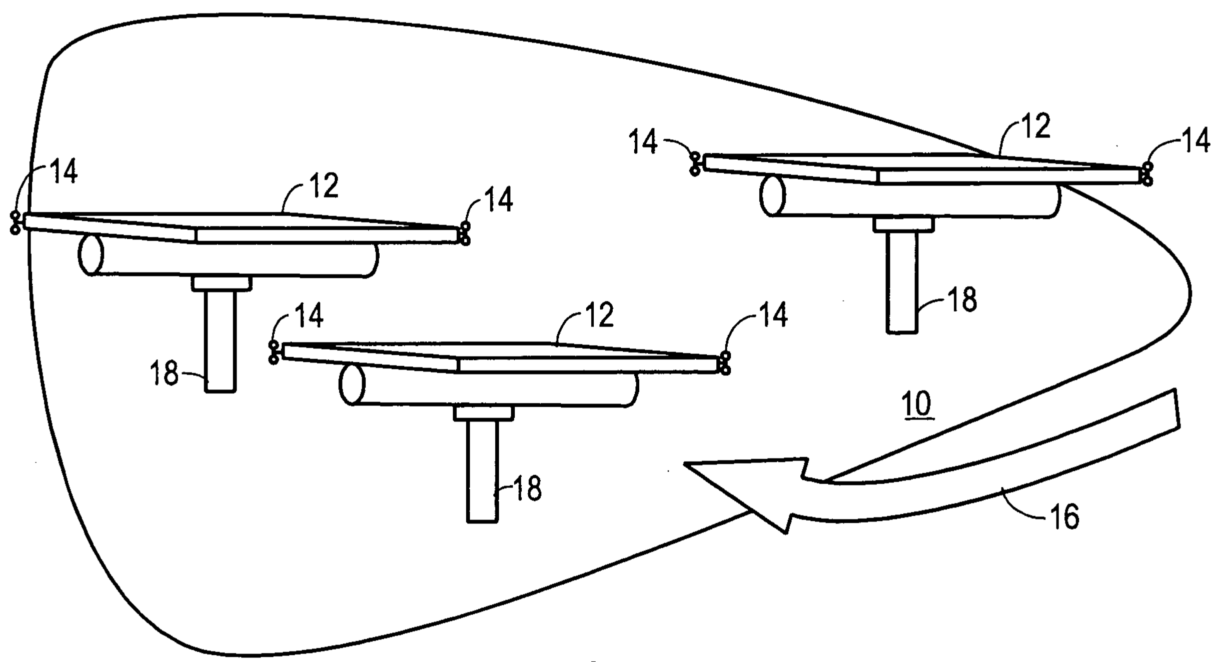
FIG. 1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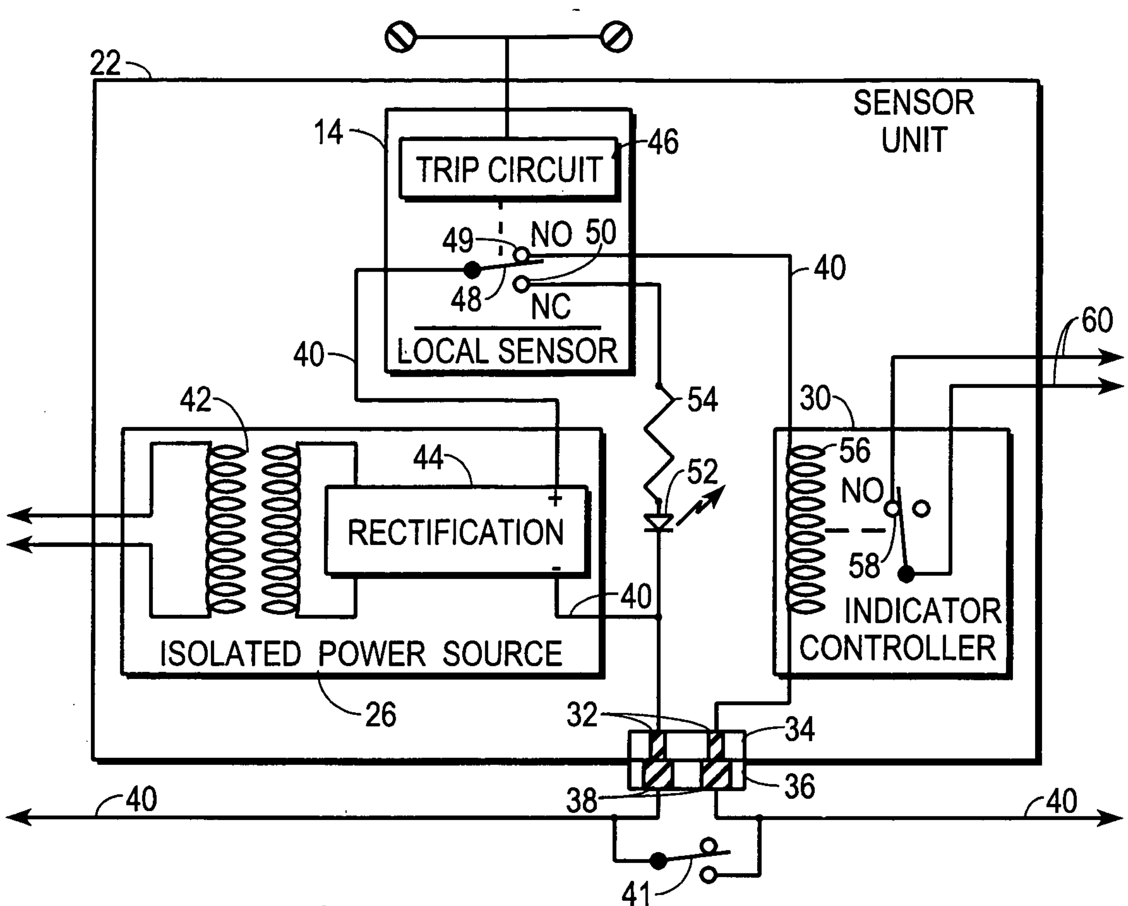
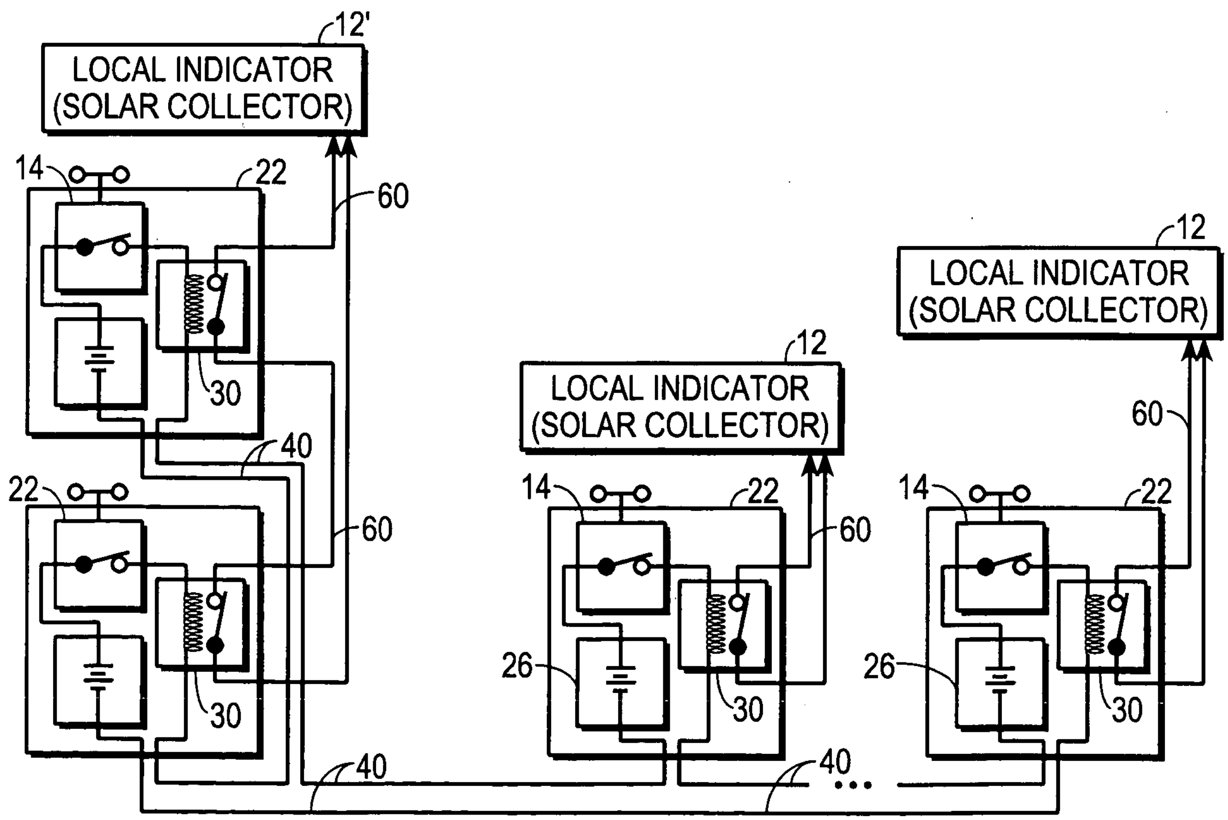
16

FIG. 2



22
SENSOR UNIT
14
TRIP CIRCUIT
46
49
NO 50
48
NC
LOCAL SENSOR
40
40
60
42
44
RECTIFICATION
+
-
54
52
30
56
NO
58
INDICATOR CONTROLLER
ISOLATED POWER SOURCE
26
40
32
34
36
38
40
40
41

FIG. 3



12'
LOCAL INDICATOR (SOLAR COLLECTOR)
14
22
60
30
40
22
60
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LOCAL INDICATOR (SOLAR COLLECTOR)
12
LOCAL INDICATOR (SOLAR COLLECTOR)
60
14
22
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26
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40

 FIG. 4

Appendix C -- Prior Art

This Appendix is thirty pages, including this cover page, and contains clean copies of the prior art under consideration, being:

Slemon et al, U.S. Patent No. 5,910,765 (12 pages); and
Allgood, U.S. Patent No. 4,361,833 (9 pages).